

Joint Tactical Radio System (JTRS) Standard Device Simple Packet Application Program Interface (API)



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Table of Contents

A. DEVICE SIMPLE PACKET 6

DEPRECATED

Table of Contents

A. DEVICE SIMPLE PACKET	6
A.1 Introduction.....	6
A.1.1 Overview.....	6
A.1.2 Service Layer Description.....	7
A.1.3 Modes of Service.....	7
A.1.4 Service States.....	7
A.1.5 Referenced Documents.....	7
A.1.5.1 Government Documents.....	7
A.1.5.2 Commercial Standards.....	7
A.2 Services.....	8
A.2.1 Provide Services.....	8
A.2.2 Use Services.....	8
A.2.3 Interface Modules.....	8
A.2.3.1 DevSimPkt.....	8
A.2.4 Sequence Diagrams	8
A.3 Service Primitivites and Attributes.....	9
A.3.1 DevSimPkt::DeviceSimplePacket	10
A.3.1.1 <i>getMaxPayloadSize</i> Operation	10
A.3.1.2 <i>getMinPayloadSize</i> Operation	11
A.3.1.3 <i>getDesiredPayloadSize</i> Operation	12
A.3.1.4 <i>getMinOverrideTimeout</i> Operation.....	13
A.4 IDL.....	14
A.4.1 DeviceSimplePacket IDL.....	14
A.5 UML.....	15
Appendix A.A Abbreviations and Acronyms.....	16
Appendix A.B Performance Specification	17

Lists of Figures

FIGURE 1 – DEVICESIMPLEPACKET CLASS DIAGRAM 8

DEPRECATED

A. DEVICE SIMPLE PACKET

A.1 INTRODUCTION

This document defines a common set of *Device Simple Packet* interfaces to be used by Joint Tactical Radio (JTR) Set Applications and Services. The *Device Simple Packet* interface provides methods to get the maximum payload size, the minimum payload size, the desired payload size, and the minimum override timeout value for the packet consumer deriving this interface.

The *Device Simple Packet* interfaces are documented within to minimize coupling between the device and service interfaces that utilize these *Device Simple Packet* interfaces.

A.1.1 Overview

- a. Section A.1, *Introduction*, contains the introductory material regarding the overview and referenced documents of this document.
 - b. Section A.2, *Services* specifies the interface, port connections, and sequence diagrams.
 - c. Section A.3, *Service Primitivites and Attributes*, specifies the operations that are provided by the *Device SimplePacket* interface.
 - d. Section A.4, *IDL*.
 - e. Section A.5, *UML*.
 - f. Appendix A.A, *Abbreviations and Acronyms*.
 - g. Appendix A.B, *Performance Specification*.
- DEPRECATED

A.1.2 Service Layer Description

Not applicable.

A.1.3 Modes of Service

Not applicable.

A.1.4 Service States

Not applicable.

A.1.5 Referenced Documents

The following documents of the exact issue shown form a part of this specification to the extent specified herein.

A.1.5.1 Government Documents

A.1.5.1.1 Specifications

None

A.1.5.1.1.1 Federal Specifications

None

A.1.5.1.1.2 Military Specifications

None

A.1.5.1.2 Other Government Agency Documents

None

A.1.5.2 Commercial Standards

None

A.2 SERVICES

A.2.1 Provide Services

Not applicable.

A.2.2 Use Services

Not applicable.

A.2.3 Interface Modules

A.2.3.1 DevSimPkt

A.2.3.1.1 DeviceSimplePacket Interface Description

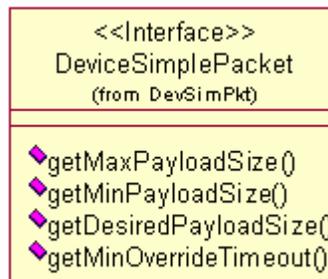


Figure 1 – DeviceSimplePacket Class Diagram

The interface design of *DeviceSimplePacket* is shown in Figure 1. It provides methods to get the maximum payload size, the minimum payload size, the desired payload size, and the minimum override timeout value for the packet consumer deriving this interface. The *getMinPayloadSize* operation is used for asynchronous modes while the *getDesiredPayloadSize* operation is used for synchronous modes.

A.2.4 Sequence Diagrams

None

A.3 SERVICE PRIMITIVITES AND ATTRIBUTES

To enhance the readability of this API document and to avoid duplication of data, the type definitions of all structured types (i.e., data types, enumerations, exceptions, and structures) used by the Service Primitivites and Attributes have been co-located in section A.5. This cross-reference of types also includes any nested structures in the event of a structure of structures or an array of structures.

DEPRECATED

A.3.1 DevSimPkt::DeviceSimplePacket

A.3.1.1 *getMaxPayloadSize* Operation

The *getMaxPayloadSize* operation returns the absolute maximum payload size allowed for a payload passed to the *pushPacket* operation.

A.3.1.1.1 Synopsis

unsigned long getMaxPayloadSize();

A.3.1.1.2 Parameters

None

A.3.1.1.3 State

Not applicable.

A.3.1.1.4 New State

Not applicable.

A.3.1.1.5 Return Value

Return Value	Type	Units
The maximum payload size.	unsigned long	bytes

A.3.1.1.6 Originator

Not applicable.

A.3.1.1.7 Exceptions

None

A.3.1.2 *getMinPayloadSize* Operation

The *getMinPayloadSize* operation is used for asynchronous modes. It returns the minimum payload size allowed for a payload passed to the *pushPacket* operation. Note that payloads of 0 (zero) size (i.e. control packets) are exempt.

A.3.1.2.1 Synopsis

unsigned long getMinPayloadSize();

A.3.1.2.2 Parameters

None

A.3.1.2.3 State

Not applicable.

A.3.1.2.4 New State

Not applicable.

A.3.1.2.5 Return Value

Return Value	Type	Units
The minimum payload size.	unsigned long	bytes

A.3.1.2.6 Originator

Not applicable.

A.3.1.2.7 Exceptions

None

A.3.1.3 *getDesiredPayloadSize* Operation

The *getDesiredPayloadSize* operation is used for synchronous modes. It returns the desired payload size allowed for a payload passed to the *pushPacket* operation.

A.3.1.3.1 Synopsis

unsigned long getDesiredPayloadSize();

A.3.1.3.2 Parameters

None

A.3.1.3.3 State

Not applicable.

A.3.1.3.4 New State

Not applicable.

A.3.1.3.5 Return Value

Return Value	Type	Units
The desired payload size.	unsigned long	bytes

A.3.1.3.6 Originator

Not applicable.

A.3.1.3.7 Exceptions

None

A.3.1.4 *getMinOverrideTimeout* Operation

The *getMinOverrideTimeout* operation returns the time a payload smaller than the “minPayloadSize” for asynchronous modes or the “desiredPayloadSize” for synchronous modes should be held before passed to the *pushPacket* operation.

A.3.1.4.1 Synopsis

unsigned long getMinOverrideTimeout();

A.3.1.4.2 Parameters

None

A.3.1.4.3 State

Not applicable.

A.3.1.4.4 New State

Not applicable.

A.3.1.4.5 Return Value

Return Value	Type	Units
The minimum override timeout period	unsigned long	milliseconds

A.3.1.4.6 Originator

Not applicable.

A.3.1.4.7 Exceptions

None

A.4 IDL

A.4.1 DeviceSimplePacket IDL

```
/*  
** DeviceSimplePacket.idl  
*/  
  
#ifndef __DEVICESIMPLEPACKET_DEFINED  
#define __DEVICESIMPLEPACKET_DEFINED  
  
/* DevSimplePkt */  
module DevSimPkt {  
    interface DeviceSimplePacket {  
        unsigned long getMaxPayloadSize ();  
  
        unsigned long getMinPayloadSize ();  
  
        unsigned long getDesiredPayloadSize ();  
  
        unsigned long getMinOverrideTimeout ();  
    };  
};  
#endif
```

A.5 UML

Not applicable.

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APPENDIX A.A ABBREVIATIONS AND ACRONYMS

API	Application Program Interface
ICWG	Interface Control Working Group
IDL	Interface Definition Language
JPEO	Joint Program Executive Office
JTRS	Joint Tactical Radio System
min	minimum
max	maximum
UML	Unified Modeling Language

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APPENDIX A.B PERFORMANCE SPECIFICATION

Not applicable.

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